

### **REMARKS**

Claims 1-3, 5, 7-14, 16-23, 25-26, 28-30 and 32-46 are pending in the application. Claims 1, 12, 45 and 46 are amended to correct typographical errors; the amendments in no way alter the scope of the claims. Claims 1-3, 5, 7-14, 16-23, 25-26, 28-30 and 32-46 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2004/0165888 to Gerstel et al. ("Gerstel"). Applicants respectfully traverse and request reconsideration and withdrawal of the rejections.

Independent claims 1, 12, and 45-46 are rejected for the reasons set forth on pages 2-3 of the Office Action. Independent claims 28 and 29 are rejected for the reasons set forth on page 7 of the Office Action.

Independent claims 1, 12, 45 and 46 each recite "the test signal is sent from each of the start node apparatus and the end node apparatus of said transmission line to a center node apparatus." These claims also recite that "each of said start node and end node . . . identifies a fault location based on the determination result [from the determination device]; and releases the nodes outside a fault interval in said transmission path." Independent claims 28 and 29 recite the following limitations: "sending out a test signal from each of a start node and an end node of said transmission line to a node located in the center of a working system path . . . identifying the fault location based on the determination result by determining the signal quality of a test signal folded back [from a center node] at each of said start node and said end node [] and releasing the nodes outside of a fault interval in said working system path [to set up the other path], if there is any fault detected in either said start node or said end node during the operation of the identifying step."

The above-recited claims specifically require that if any fault is detected in either the start node or the end node during the identification operation, the nodes outside a fault interval in a transmission path are released. Thus not only do the claims recite a device that can identify a fault interval, but it can actually release those nodes outside the fault interval into a working transmission line. At page 7, the Office Action cites to paragraph [0033] of Gerstel with respect to this limitation

in claim 28. However, paragraph [0033] simply describes a loopback used to isolate a fault between client equipment and a transponder in an OLT. Gerstel is silent on “releasing nodes outside of a fault interval in said working system path.” Accordingly, the Office Action fails to make a *prima facie* rejection to independent claims 1, 12, 45-46, and 28-29.

Independent claim 23 is rejected for the reasons set forth on page 5 of the Office Action. Independent claim 23 recites “sending out a test signal from a terminal node of said transmission line to a working system path (current path) after switching said working system path to an auxiliary system path (stand-by path) in response to occurrence of a fault.” Fig. 5 and paragraph [0030] Gerstel, cited by the Office Action do not disclose this limitation of claim 23. As explained at paragraph [0030] of Gerstel, Fig. 5 is a flowchart for Gerstel’s self-test method. Neither this self-test nor the loop back functionality described at paragraph [0029] and [0031], disclose that the testing is “in response to occurrence of a fault.” Rather, as described therein, Gerstel’s system is designed to verify the quality of connection - it does not operate upon occurrence of a fault.

Moreover, nothing in Gerstel shows “switching said working system path to an auxiliary system path” and “sending out a test signal...to a working system path.” As shown at Figs. 6 and 7 of Gerstel, the exact same pathway is used to send the test signal in loopback mode as is used during normal network traffic. See also paragraph [0031] of Gerstel, cited by the Office Action. Thus Gerstel does not disclose an “auxiliary system path” to switch a working system path to before “sending out a test ... signal to a working system path” as required by claim 23.

The Office Action rejects independent claim 25 for the reasons set forth on page 6 of the Office Action. Independent claim 25 recites the following limitation: “sending out the test signal **from the node having sent out the determination result** to said working system path if no fault is detected during the operation of the identifying step.” In response to the Applicants’ arguments submitted, *inter alia*, in the remarks dated April 3, 2007, the Office Action alleges that step 114 described in paragraph [0030] of Gerstel discloses the claimed step of sending out the test signal from the node having sent out the determination result. Applicants respectfully disagree. As fully

explained in the April 2007 Response, step S114 of Gerstel only shows an initial test signal is sent out from transponders. It does not disclose sending out a test signal “from a node **having sent out a determination result**,” much less sending out a test signal “if there is no fault detected during the operation of the identifying step.” At step S114 of Fig. 5, when the transponders are turned on, there has not yet been a determination made, nor has there been an identification of a fault. Indeed Gerstel could not be more clear: “at step S114 the transponders are turned on and start transmitting a test signal, and at step S116 transponders receive the test signal from the source. **At step S118 a determination is made** if there are errors in the received test signal, and if so, an alarm notification is sent to the local management system controller.”

The Office Action also alleges that the Abstract taken together with Fig. 3 shows “sending out the test signal from the node having sending out the determination result.” Applicants respectfully disagree. As explained in paragraph [0027], Fig. 3 describes making a determination result. But neither Fig. 3 nor its accompanying description discloses sending out a test signal from the node having sent out the determination result to said working system path if there is no fault detected during the operation of the identifying step. Nothing in the Abstract of Gerstel, including the statement that “optical loop backs may be used to localize and identify a fault in the light path,” in any way shows identifying the fault location based on the determination result **in said terminal node that has received the determination result**; and **sending out the test signal from the node having sent out the determination result** to said working system path if there is no fault detected during the operation of the identifying step,” as required by claim 25. Thus, Applicants submit that independent claim 25 is in condition for allowance and urge reconsideration and withdrawal of the rejection thereto.

Claims 36 and 40 stand rejected for the reasons set forth on pages 2-3. Claims 36 and 40 recite “said test signal sending component notifies the determination result of said determination device to said another network node apparatus, and if no fault is identified, transmits the test signal to a **next network node apparatus** after notifying said determination result.” Like independent claim 25, nothing in Gerstel shows sending a test signal from a node that sent out the determination

result to a next network node if no fault is identified. Hence, for the reasons laid out with respect to claim 25, claims 26 and 40 are in condition for allowance as well.

In the Office Action's response to the Applicants' arguments in the April, 2007 Remarks, the Office Action alleges that Fig. 6 of Gerstel shows sending a test signal to a next network node if no fault is identified. According to the Office Action Fig. 6 shows that a test signal is sent to every node in the network under normal conditions "(e.g., same as no fault is identified)." See Office Action pages 9-10. With all due respect, the Office Action misinterprets the Gerstel reference. As explained in paragraph [0031], network testing is only done during loop back operation, which is shown in Fig. 7 of Gerstel. Fig. 6, on the other hand, shows operation in a non-testing mode, that is to say, where traffic is allowed to flow westbound and eastbound through the nodes. Thus Fig. 6, being in a non-testing mode, is not sending any test signals. Paragraph [0029] also makes it clear that when the testing feature is used in combination with signal loop backs along the light path to perform diagnostics on the portions of the connections, the transmitted signal having an injected test pattern is looped back by downstream equipment and then the transmit signal is received and monitored by the transmitting WDM. Thus, when the loop back mode is operative, the determination is in the same node that sent the test signal. Thus nothing in Fig. 6 or in Fig. 7 shows a node that 1) determines the signal quality of a **receiver test signal** from **another network node**, 2) notifies the determination result to **another network node**, 3) transmits a test signal to a **next network node** if no fault is identified, this (at least) 3 node configuration being required by the claims 36 and 40. Accordingly, Applicants urge that independent claims 36 and 40 are presently in condition for allowance and urge reconsideration and withdrawal of the rejections thereto.

For the reasons outlined above, Applicants respectfully submit that independent claims 1, 12, 23, 25, 28-29, 36, 40, 45 and 46 are each allowable over Gerstel and urge reconsideration and withdrawal of the rejections thereto. All the remaining pending claims ultimately depend from these independent claims, and each of these dependent claims include additional limitations which, in combination with the limitation of claims from which they depend, are not disclosed in the prior art of record. Accordingly, Applicants urge that independent claims 1-3, 5, 7-14, 16-23, 25-26, 28-

30 and 32-46 are presently in condition for allowance and respectfully request reconsideration and withdrawal of the rejections thereto.

In view of the above Response, Applicants believe the pending application is in condition for allowance.

No fee is believed to be due for this Amendment. Should any fees be required, please charge such fees to Deposit Account No. 50-2215.

Dated: June 29, 2007

Respectfully submitted,

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